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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,136	07/15/2003	Roger T. Simpson	BW-DKT00010A	8461
32175	7590	06/17/2004	EXAMINER	
BORGWARNER INC. POWERTRAIN TECHNICAL CENTER 3800 AUTOMATION AVENUE, SUITE 100 AUBURN HILLS, MI 48326-1782			CORRIGAN, JAIME W	
		ART UNIT	PAPER NUMBER	
			3748	

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/620,136	SIMPSON ET AL.	
	Examiner	Art Unit	
	Jaime W Corrigan	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-13 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 15 March 2004.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Claim Objections

Claim 1 is objected to because of the following informalities:

The character at the end of claim 1 should be replaced with a period -- . --.

Appropriate correction is required.

In claims 12-13, The abbreviations for "CTA", "OPA", "TA", "VCT" should be spelled out.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Weber et al. (PN 6,305,353).

Regarding claim 1 Weber discloses at least two (See Figure 5) groups of toothlike projections including a first group (See Figure 5) having a first distance to the center of the wheel, and a second group (See Figure 5) having a second distance to the center of the wheel, the first distance being different (See Column 4 Lines 35-67, Column 5 Lines 1-17) from the second distance.

Regarding claim 2 Weber discloses the at least two groups further comprising a third group having a third unique distance to the center of the wheel (See Figure 5).

Regarding claim 3 Weber discloses the timing gear (See Figure 2 (80)) is concentrically coupled to the at least one cam shaft (See Figure 2 (64B)).

Regarding claim 4 Weber discloses the timing gear (See Figure 2 (80)) is concentrically coupled to a crank shaft (See Figure 2 (64B)).

Regarding claim 5 Weber discloses the timing gear (See Figure 2 (80)) is mounted upon a phaser (See Figure 2 (74b)).

Regarding claim 6 Weber discloses the timing gear is engaging an engine timing chain (See Figure 13), said timing gear having various toothlike (See Figure 5) projections and grooves arranged on a wheel rim (See Figure 2 (80)) of a wheel for engaging the links of a timing chain.

Regarding claim 7 Weber discloses the timing gear is engaging an engine timing belt (See Figure 13).

Claims 8-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Tscheplak (EP325724A).

Regarding claim 8 Tscheplak discloses a resonator positioned upon the at least one cam shaft (See Figure 1 (4)), the resonator including at least one mass (See Figure 2 (1), (2)) and at least one elastic (See Figure 1 (25)) element; whereby torsional oscillation of the at least one cam shaft at a predetermined engine speed range is increased (See Abstract Lines 7-10).

Regarding claim 9 Tscheplak discloses the at least one mass comprising an annular metal member (See Figures 1-2, (1), (2)).

Regarding claim 10 Tscheplak discloses the at least one elastic (See Figure 1 (25)) element comprising annular rubber (See Figure 1 (33)) member attached onto the at least one cam shaft (See Figure 1 (4)).

Regarding claim 11 Tscheplak discloses the at least one elastic (See Figure 1 (25)) element comprising at least one spring having a first end attached to the at least one cam shaft (See Figure 1 (4)) and a second end connected to the at least one mass (See Figure 2 (1), (2)).

Regarding claim 12 Tscheplak discloses the system is a CTA (See Figure 1, Abstract), an OPA, or a TA system.

Regarding claim 13 Tscheplak discloses the VCT system is a CTA (See Figure 1, Abstract), an OPA, or a TA system.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nugent (PN 6,212,967), Marriott (PN 6,155,220) disclose similar cam timing systems.

Any inquiry concerning this communication from the examiner should be directed to Examiner Jaime Corrigan whose telephone number is (703) 308-2639. The examiner can normally be reached on Monday - Friday from 8:30 a.m. – 6:00 p.m. 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (703) 308-2623. The fax number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

JC

Jaime Corrigan
Jaime Corrigan
Patent Examiner

June 14, 2004

Art Unit 3748

Thomas Denion
THOMAS DENION
SUPERVISORY PATENT EXAMINER
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